

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-334585

(43)Date of publication of application : 22.11.2002

(51)Int.Cl.

G11C 15/04
G11C 11/14
G11C 11/15
H01L 27/105

(21)Application number : 2001-135358

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(22)Date of filing : 02.05.2001

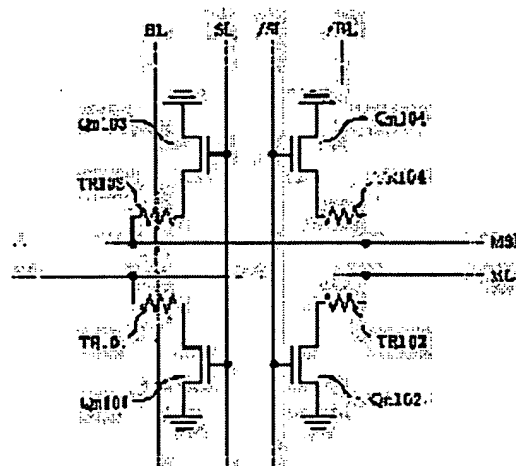
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(54) SEMICONDUCTOR MEMORY

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a semiconductor memory in which the number of elements of a storage circuit is reduced.

SOLUTION: In an associative memory cell shown in figure 2, magnetoresistive elements TR101-TR104 are a TMR film used for a MRAM, and have a resistance value on accordance with a magnetizing direction by current magnetic fields of a pair of bit line (BL, /BL), an uncoincidence detecting line ML, and a reference current output line MSL. Stored data of the memory cell is set in accordance with combination of resistors set to the magnetoresistive elements TR101 and TR102. The magnetoresistive elements TR103 and TR104 are fixed resistors for reference for comparison for detecting resistance variation of magnetoresistive elements. Transistors Qn101, Qn103 or transistors Qn102, Qn104 are conducted in accordance with retrieving data inputted to a pair of retrieving data line (SL, /SL), when retrieved data and stored data are not coincident, resistance of the uncoincidence detecting line ML and the reference current output line for the reference potential is made uncoincident.



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[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

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